

What is claimed is:

1) Tooling for the fabrication of composite materials comprising a carbonaceous foam having a density of between about 0.10 and about 0.80 g/cm³, a coefficient of thermal expansion of between about 0.5 and about 6.5 and a thermal conductivity below about 1.

5

2) The tooling of claim 1 wherein said carbonaceous foam is pitch-based or coal-based.

10

3) The tooling of claim 2 wherein said carbonaceous foam is a semi-crystalline, largely isotropic, porous coal-based product produced from particulate coal exhibiting a free swell index of between about 3.5 and about 5.0.

15

4) The tooling of claim 3 wherein said coal exhibits a free swell index of between about 3.75 and about 4.5.

20

5) The tooling of claim 2 having a compressive strength below about 6000 psi.

6) The tooling of claim 2 wherein said carbonaceous foam has been carbonized.

COMPTON-THOMPSON

SUR
Q17

7) The tooling of claim 2 wherein said carbonaceous foam has been graphitized.

8) The tooling of claim 1 further including a facesheet of a dissimilar material coated thereon.

5 SUB
a17

9) The tooling of claim 1 wherein the density of said carbonaceous foam varies in density throughout the mass thereof.

odd
a27